Beck
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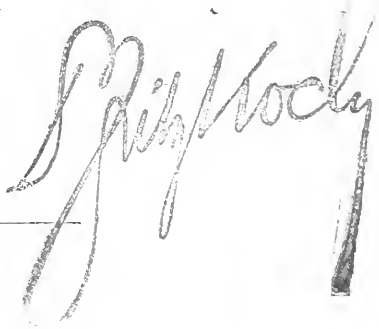
DR. JOS. C. BECK, CHICAGO.



(Reprint from THE LARYNGOSCOPE, *St. Louis, May, 1920.)*

PRESENT STATUS OF PLASTIC SURGERY ABOUT THE EAR, FACE AND NECK.

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PRESENT STATUS OF PLASTIC SURGERY ABOUT THE EAR, FACE AND NECK.

Dr. Jos. C. Beck, Chicago.

Division;

1. As results of war injuries.
2. In civil life.
    a. From diseases.
    b. Injuries.
    c. Congenital.
    d. Cosmetic.
    e. Psychic or imaginary.

I. *Plastics in War Injuries:* Owing to the results from severe wounds and diseases of so many men in the World's War, there was and is a great demand for physicians and surgeons to correct and reconstruct these defects. Cases requiring plastic surgery about the head, face and neck, make up a very large portion, although comparatively a small proportion of Americans as to those of the other nations who were in the fight since 1914 and 1915.

During the years of 1915-16-17 I presented papers before the Chicago Odontographic Society, Illinois Dental, Chicago Oto-Laryngologic Society, the American Academy of Ophthalmology and Oto-Laryngology, Dominion Medical Association and Alabama State Association in which I urged oto-laryngologists, opthalmologists and oral surgeons of America to turn their attention to the training of plastic surgery in order that when the time came (I was certain it would come) they would be ready to do their part.

In 1917, when the United States entered the war, the Surgeon General in his organization of the Division of the Head, made pro-

vision for a department of Plastic and Oral Surgery under the command of Dr. Vilray P. Blair, of St. Louis. He very ably and rapidly developed a school and classes for the education of men who would be employed in the service along these lines. I had the great pleasure and privilege of teaching in some of these classes as to what I knew of reconstructive work from my previous experience in civil life as well as from reading, and personal communication with English, French, Italian, Austrian and German surgeons as to their experience in war plastics since 1914. In these cases I was struck by the absence of men from the oto-laryngological field, for I expected and hoped, they would be the first to enter this service. When I was asked by the department at Washington to recommend some men whom I knew and thought would like this special assignment, I received some of the most uncomplimentary replies, as well as poor excuses why they could not serve. I mention this fact advisedly at the present time, because it seems as though only that type of plastic surgery which has to do with cosmetics or beautifying as, for instance, taking off of a hump or filling up a saddle defect of the nose, and which really calls for very little surgical skill, appears to interest some oto-laryngologists.

There are two periods during which plastic work is performed, namely, immediately after injury and secondarily or later. In the immediate operations, one attempts to bring the parts together as nearly normal as possible, both from the cosmetic side as well as functionally. This is very frequently not feasible by virtue of the fact that the patient's general condition will not permit operating upon him or the tissues locally are not fit for operation, as f. i., foreign bodies, infections, lack of circulation, etc. In such cases one will frequently defer the work for a secondary operation. Secondary operations are also performed to improve previously corrected parts. This is rather the rule and it is not uncommon to have a case in which as many as fifteen operations are performed before a sastisfactory physiologic and cosmetic result is obtained.

In the discussion of the various forms of war injuries about the head, face and neck requiring plastic surgery, it is not possible to classify them on account of their multiplicity of conditions, consequently no specific rules can be made as to their management; in other words, every case is a law unto itself. The degree of the injury, the condition of the tissues, locally, and the general condi-

tion of the patient, are of importance as to the result that may be expected.

In my own service at the American Red Cross Hospital No. 113, at Cognac, France, and Czecho-Slovak Red Cross Hospital at Prague, Bohemia, where I had charge of general as well as special work, there came under my care 326 cases of plastic surgery of which 89 cases were of head, face and neck injuries. These were divided into—

1. Scalp and skull plastics, including upper part of orbit and upper eyelid.
2. External nose, including lower eyelid or upper lip.
3. Upper maxilla including external nose, upper lip or lower eyelid.
4. Inferior maxilla, including lower lip.
5. Both upper and lower maxilla including one or both lips.
6. Lower maxilla and neck wound with or without perforation of the larynx, trachea or esophagus.
7. Neck wound with or without perforation of the larynx, trachea or esophagus.
8. External ear.
9. Compound in which more than one of the above mentioned injuries were present.

These divisions could be further sub-divided as f. i. Severance of large blood vessels and nerves, etc., but for a simple classification and easy indexing the above division served me very well, and in my observation of other surgeons' services, I found that this same classification would have answered the practical purpose.

The immediate result from operations on these cases in my service, was far from satisfactory, because they were or had become infected and practically every case demanded one or more secondary operations. The same was true in my observation of other work. It is very regrettable that in my service as well as that of many other men, the results of the secondary operations could not be followed up, owing to the fact of the patients being transferred to their respective homes, for further observation or operations.

There were, however, many places where I had the pleasure of observing cases that had been operated upon all the way from one day to four and one-half years before as well as seeing different

operators and many operations, so that I have formed a fair opinion as to results and selection of operations. While there has not developed anything remarkable or particularly new in plastic surgery in this war, there can be no question that much was learned from the large amount of material which the war furnished. I shall not attempt to go into great detail in describing operations, but will illustrate some of the work I have observed and make comments thereon.

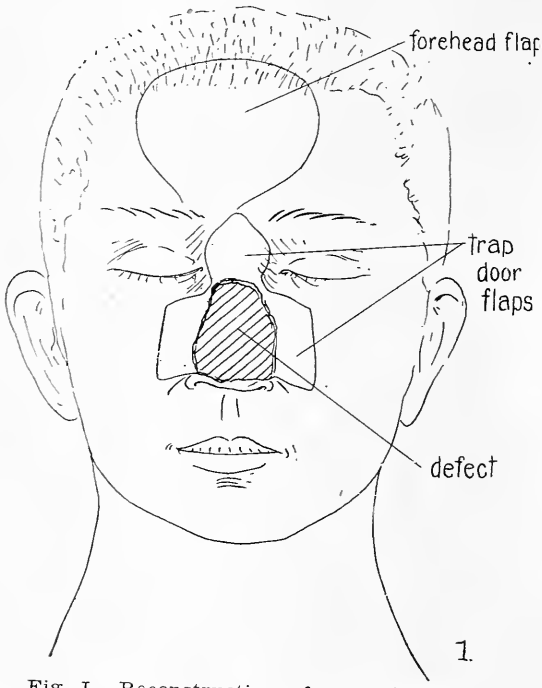


Fig. I. Reconstruction of nose (English).

Owing to the peculiar service that I had, I was enabled to visit many military hospitals in the Allied countries, particularly in France, Italy and England and, therefore, had a great opportunity of seeing the good as well as the bad. I have selected some of the procedures and have taken the liberty of illustrating them not with any idea of publishing other men's work ahead of their original articles, nor that anyone, especially those not familiar with plastic work, shall be able to perform such operations, but merely to report some of the interesting work I have seen over there.

Fig. I. Nasal Defects: The following four illustrations show steps of an operation that appeared to give better results than any

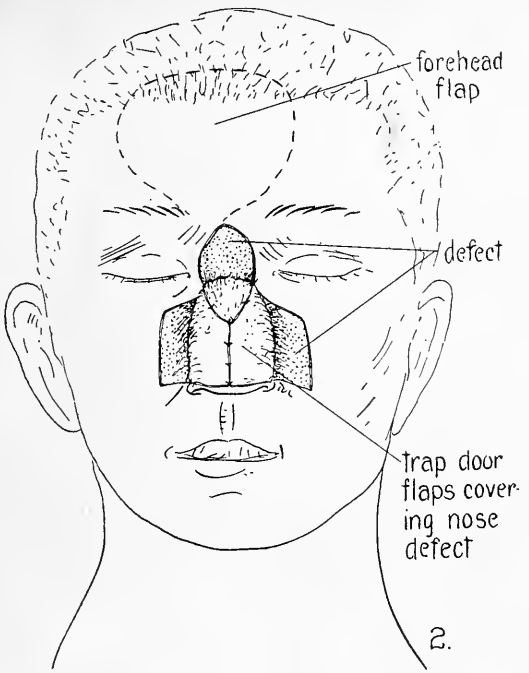

forehead flap
defect
trap door flaps covering nose defect
2.

Fig. I.

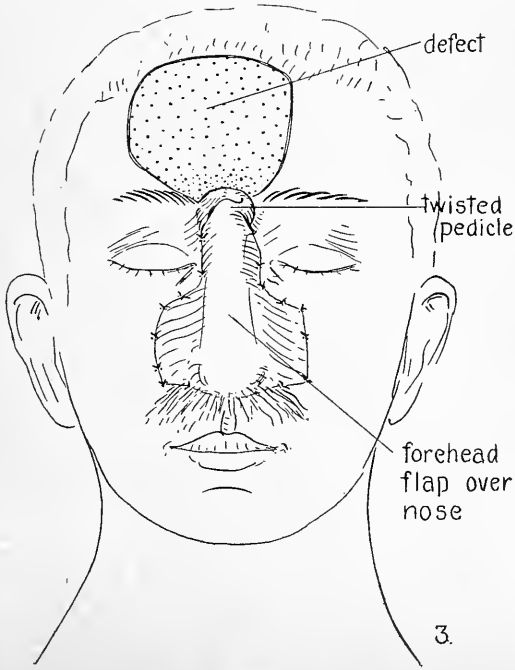

defect
twisted pedicle
forehead flap over nose
3.

Fig. I.

other, when the defect was confined to the lower portion of the nose. I had the pleasure of seeing cases operated upon by this method as presented in London to the British Medical Association as well as at Sidcop, Queens' Hospital, Canadian Division, under the head of Dr. Waldron. The work done at that hospital under the direction of Dr. Gillis was excellent and his publication (text-book) should be seen by all who are interested in the subject.

Fig. II. Nasal Defects: The following three illustrations show particularly LaMaitre's operative procedures as carried out at the

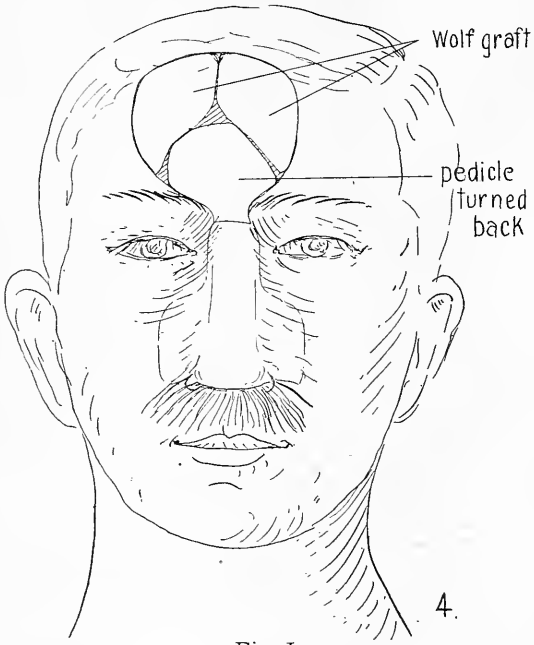


Fig. I.

hospital at Vichy and he prefers it to any other procedure in defects particularly suitable for it. At times there is planted a piece of bone or cartilage under the forehead flap several weeks before the latter is transplanted. One very interesting point in Le Maitre's operation, is the fact that it is a one-step procedure. There are so many other important and interesting facts about this and many other of his operations that would be of worth to describe here, but this is not the purpose of my paper. Consequently the writer would suggest the careful reading Le Maitre's plastic work which is to appear very soon in the Annals of Otology, Rhinology and Laryngology, St. Louis.

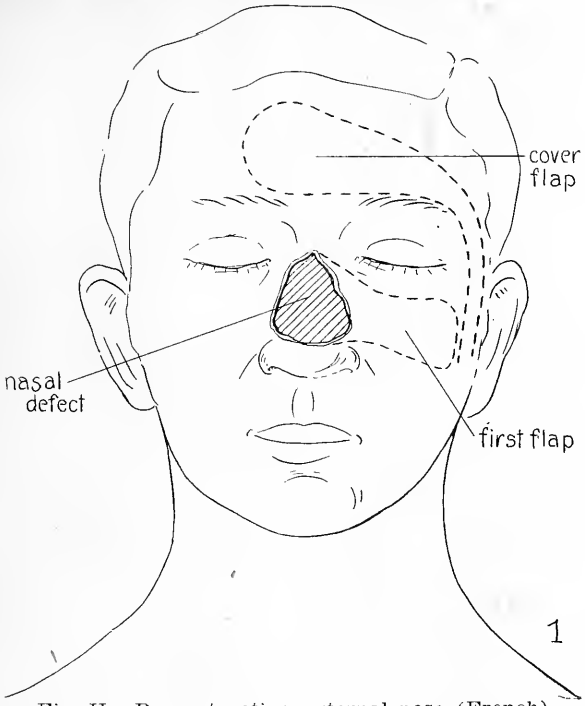
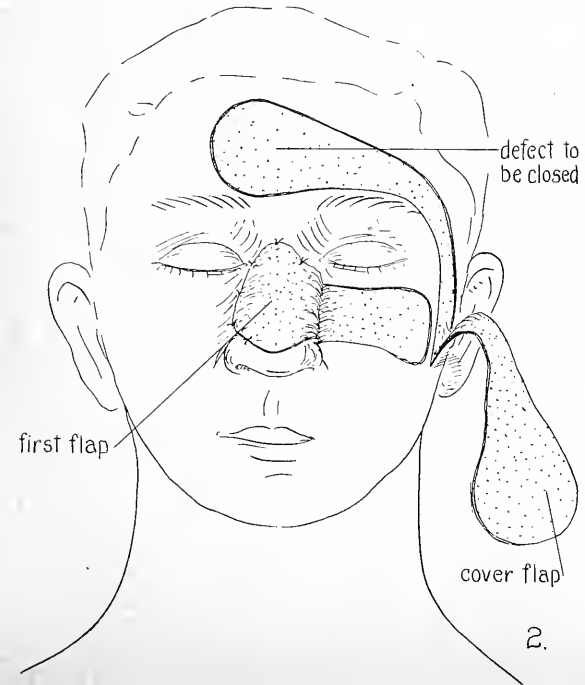


Fig. II. Reconstruction external nose (French).



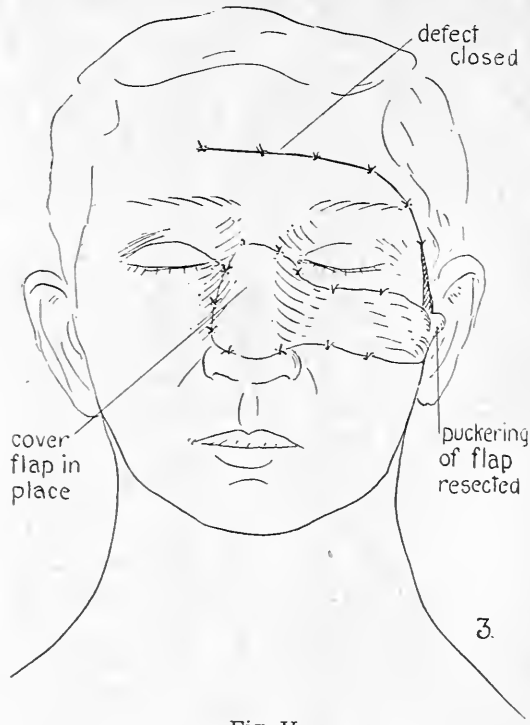


Fig. II.

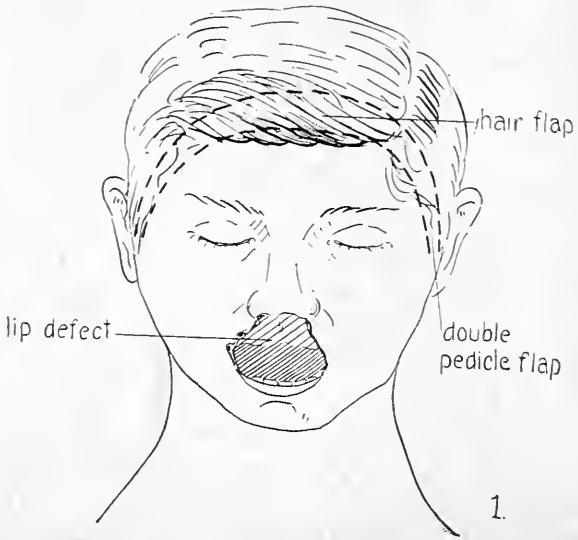


Fig. III. Reconstruction of upper lip (French).

Fig. III. Upper Lip Defects: The following three illustrations show a very novel and satisfactory procedure employed by Sibelo and his associates at the Valde Gras Hospital, in Paris. Of course, it is only applicable to males.

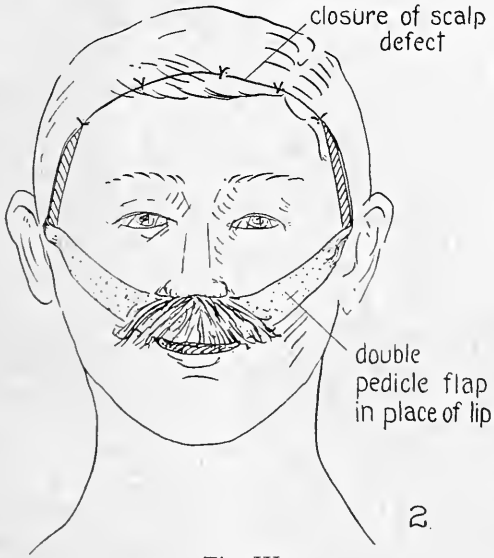


Fig. III.

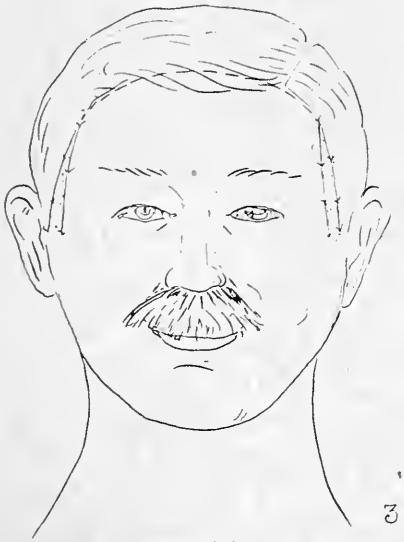


Fig. III.

Fig. IV. Lower Jaw and Lip Defect: The following three illustrations show how easily very large double pedicle skin flaps can be taken from the neck without any great amount of scar

formation resulting, not functional disturbances. It enables one to do subsequent bone implantation for lower mandible reconstruction. Both the English and the French make use of similar technic. The operations on the lower jaw as suggested by Cole are perhaps the best that were done anywhere in the world. The pedicle graft appears to be more favored than transplant. La Maitre lays much stress on regeneration of the periosteum in obtaining a solid jaw, whereas the English, Italians and Americans do not take much stock in it.

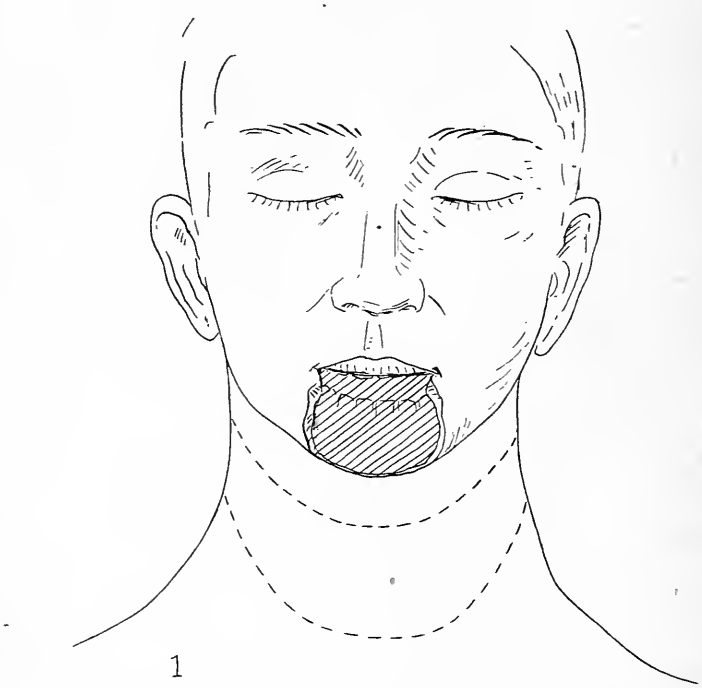


Fig. IV. Reconstruction of lower lip (French and English).

Fig. V. Lower Jaw and Lip Defect: The following three illustrations show a very novel method of reconstruction and I believe offer a much better ultimate result than just shown. The rolled-up mass of skin, etc., is left hanging by its pedicle for several weeks, being placed into defect during the day, aiding speaking and eating. It is held in place by a bandage when it is sutured in place. I have seen a number of these cases in Prague, and also in Paris.

Fig. VI and VII. Bone and Cartilage Transplants: In order to stiffen parts in reconstruction of nose, jaws, etc., the English

Fig. IV.

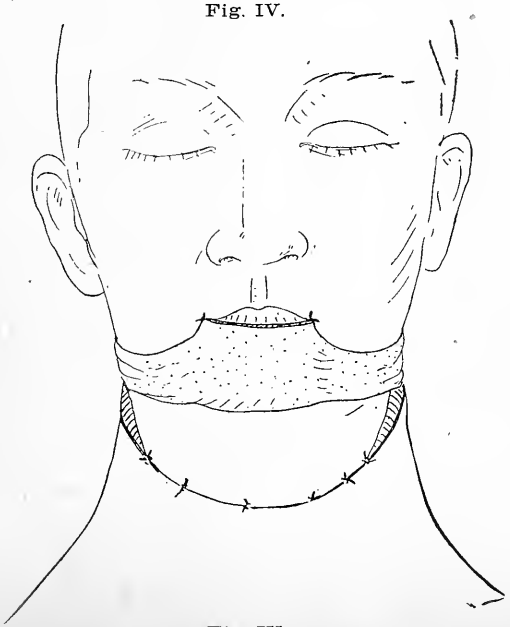


Fig. IV.

have employed the crest of the illium in preference to the anterior border of the tibia (Rysdon said that they had several cases of fractures of the tibia following removal of the parts of same). My idea is that it was probably due to a secondary rarifying osteitis, causing the fracture rather than that too much was removed. In the use of cartilage transplants a very practical and novel idea is the resection of several pieces of costal cartilage but only perhaps

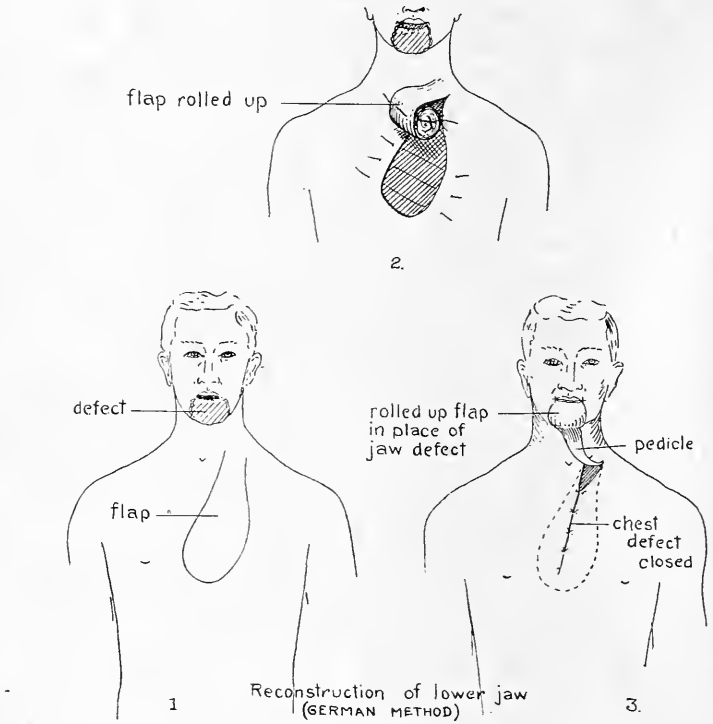


Fig. V.

making use of one piece. The remaining pieces are placed right under the true layer of skin in close proximity to the incision which is closed. Then whenever another piece of cartilage is required in the same or another case, one can very easily open the incision under local ansthesia and remove a piece from the storage place.

Fig. VIII. The following two illustrations show a very practical flap for external ear construction employed by the English. The neck flap is doubled up upon itself along its length with the skin outwards and the end sutured into the ear defect, subsequently the pedicle is out and this tube like flap is shaped into an auricle.

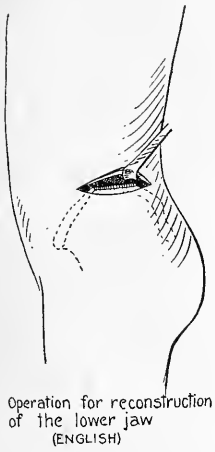


Fig. VI.

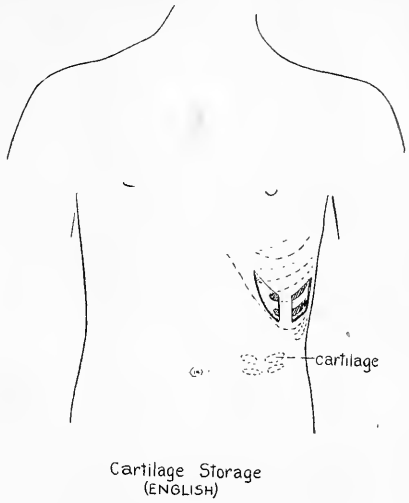


Fig. VII.

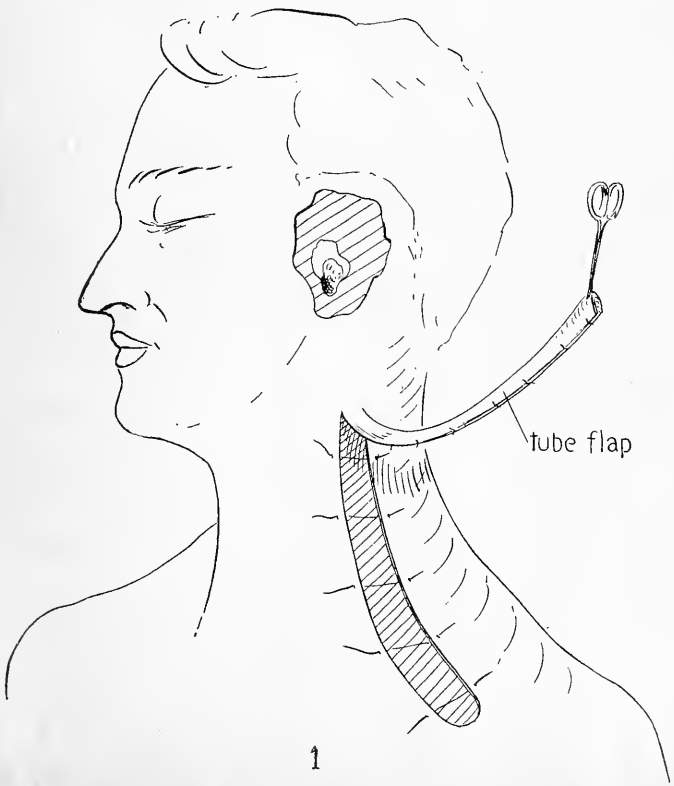


Fig. VIII. Tubular flap. External ear reconstruction (English).

There are a number of other procedures that have been developed, which are of interest especially in Maxillo-facial plastics. I have reference to the various appliances, but there too each case requires its particular constructed apparatus. In this connection, La Maitre's work shop was the best I ever saw, it demonstrated the importance of the association of a dentist, mechanician and plastic surgeon.

One striking feature to me was the rarity with which the Italian operation was performed. Only in Italy have I seen cases operated

Fig. VIII.

by that method and very few at that. On the other hand, considerable use of Wolf and Thiersch grafts were being made. The keeping in position of these grafts (Stent) by the modeling compound in the orbital and oral cavities give good results. The open wound dressing was another departure and less infection of milder character was noticeable in consequence.

One of the most important factors in the successful outcome of plastic operations, is not to operate too soon after the primary or previously performed secondary operation. This fact was thor-

oughly exemplified over there in that the intermediary waiting period was usually from three to six months. In civil life it is most difficult to put off patients who are constantly urging to have the work finished. Operating too early after a previous operation has caused several defeats in my practice.

In regard to my observation in plastic work in American hospitals abroad I am not able to say very much, simply because there were not many cases and too early to judge.

At the American Red Cross Hospital No. 1, at Nuille, France, I saw about two hundred maxillo-facial and other head plastics in charge of Dr. Coughland who made use of methods entirely individual.

Considerable stress was laid upon the use of Carrell Dakin's solution and the bacterial control before operation was undertaken.

At the Base Hospital No. 115, at Vichy, I was disappointed not to find any face, head or jaw plastics, only a few lid cases in charge of Dr. Francis. In this country I have seen recently some of the cases that were sent back for further work at Jefferson Barracks, Ft. McHenry and Walter Reed.

Dr. Blair, who was in charge at Jefferson Barracks, was kind enough to show me some of his cases as well as operate a most difficult case. His development of the technic in that particular case the day before operation, exemplified one of the characteristics of a good plastic surgeon, namely patience. Casts, photographs and artistic illustrations were shown in abundance and should be of considerable value when published.

Dr. Schaeffer at Ft. McHenry was equally desirous of showing me all he had and I should say his operating technic, cases, demonstrations, as well as their records, casts, models, photographs, etc., would stand criticism as good work.

Dr. Ivy, in charge at Walter Reed, had the advantage of the previous two gentlemen, in that the equipment, artists, etc., appeared to be of a higher standard and therefore could demonstrate to better advantage. Some of the most interesting cases were shown to me and an operation on the lower jaw was performed in the classical Cole method of a pedicle graft. Particularly valuable was my observation in the Dental Mechanics laboratory, where the various appliances were made by what appeared experts and reminded me of La Maitre's work shop.

The results from the surgical standpoint, I believe, cannot be improved upon, but cosmetically and functionally there is much to

be wished for. This I say from my observations on cases which I have observed that have come under my care at the Marine and Public Health Hospital in Chicago for further operations. Most of these cases have never seen the three hospitals nor surgeons just mentioned but were cases that were taken care of at regular base hospitals over there and sent back much earlier than these mentioned at Jefferson Barracks, McHenry and Walter Reed.

Finally there has developed this fact, that practically in no instance was a soldier willing to accept an artificial ear, nose, jaw or part of face instead of a reconstructed one by operation though the prothesis was much better looking.

2. *Plastics in Civil Life.* A. *"Following Disease":* Following diseases such as syphilis and tuberculosis are responsible for the largest number, but with the present mode of treatment by salvarsan in lues and radiotherapy in tuberculosis there will be a marked decrease in their production. The treatment scar formation as an end result of a healed out luetic nose gives the greatest difficulty in the healing of the parts after operation. It is therefore best to remove as much as possible of this scar tissue even the defect made greater by so doing. Although one considers the case cured of syphilis with a negative Wasserman for some time. I have found the giving of salvarsan at the time or just before the operation, to be of value in the healing of the parts.

There is one operation following the disease of atrophic rhinitis that I wish to describe very briefly which is a plastic for therapeutic of physiologic purposes. I have already reported on the use of fascia lata implantation for this purpose, but now I employ only septum, both cartilage and bone, obtained from a freshly submucous resected septum, just preceding the operation.

The technic is very simple. One performs a thorough dissection of muco-periostium and perichondrium as in an extensive submucous resection, then break through the cartilage and bone at several places. This is done for the purpose of permitting circulation between the two layers of perichondrium and peristeum, thus improving the nourishment of the implants. The just previously resected septum (having tested the blood for proper grouping of donor and recipient) is now cut into small pieces and put between the muco-periosteal and perichondrium flaps, taking great care not to allow contact with the distention, at the inferior meatus. The incision is closed by a stitch and sealed with collodion.

Lupus or tuberculosis, which are much more rare, will cause deformities of the tip of the nose or the lae. Since the use of x-ray and radium treatment has substituted the surgical attacks, the subsequent plastic results are far more satisfactory, owing to less frequent recurrences of the disease.

Malignant growth particularly epithelium both of ears, external nasal, eye lids and lips make up quite a number of cases that require plastic operations subsequent to x-ray, radium or surgical intervention.

(b) Traumatic. These have increased very much in the past few years due to automobile accidents, but on the other hand have decreased considerably from occupational causes. The latter is due to the fact that manufacturing plants are more careful in the fitting out of shops with safety devices and there are special Insurance Boards who look after these matters, in order to safeguard both employer, employe and insurance company. There is no possibility of classifying cases of injury which are the same as those occurring in war times and every case is a law unto itself. One type of traumatic deformity has interested me particularly, namely facial paralysis, and I shall describe same more in detail with report of some cases.

c. Congenital Defects. Three types of deformities have presented themselves to me more frequently than any other, and these are:

1. Total or partial loss of external ears.

2. Marked shortening or absence of calomella with absence of septal cartilage.

3. Cleft palate and harelip.

1. In the correction of the *"external ear"* I have now four cases under treatment of reconstruction and will very briefly describe them, because, thus far, the subject has not received the attention that it should. The first illustration, Fig. IX, shows the cases before anything had been done. They are from 2½ years to 6 years of age. One is a bilateral case. X-ray of mastoid shows in each case the evidence of a middle ear and outline of the internal ear. Rotation test shows functioning vestibular apparatus in three, however, duration of nystagmus much reduced in deficient ear. Attempts made in the younger children as to the ability to hear by the aid of the noise apparatus was not successful because all these children refused to permit the buzzer in their ear. The oldest (girl 6 years)

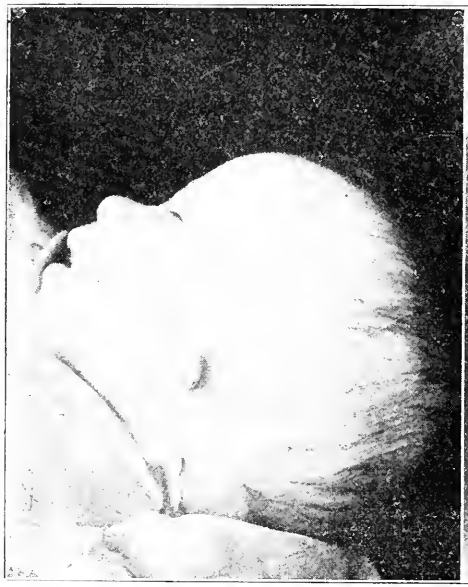


Fig. IX.

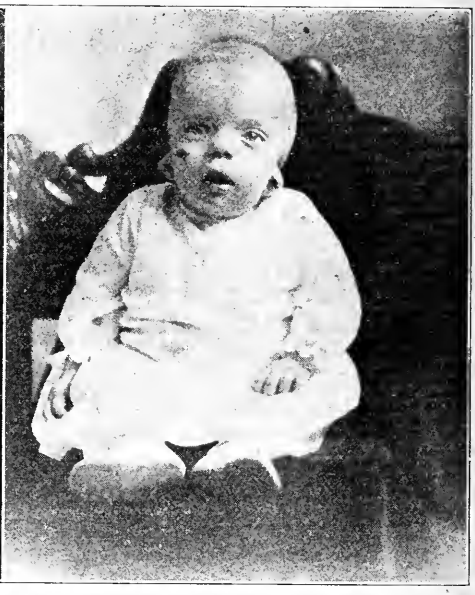


Fig. IX.

Fig. IX.

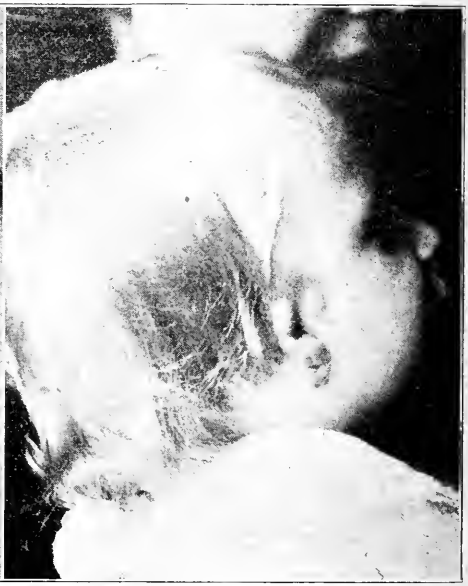


Fig. IX.

did permit it, and I found that she did not hear on the defective side, although there was a nystagmus on rotation present.

The second illustration, Fig X, shows the children after one or more operation, of adding tissue by pedicle flaps from the mastoid and neck regions. Cartilage transplants will be employed when the soft parts of this ear is finished, rather than immediately, because from my previous experiences with the shrinking began it crumbled the cartilage out of shape. I shall make use of costal cartilage from mother or father (depending upon the result of the titrating test of blood of donor as well as recipient of the tissue). In the past year I have made use of resected septum cartilage and bone of other

Fig. X.

patients proving up this above mentioned grouping by the blood test.

2. Congenital absence of part or all of the septal cartilage, causing the squashed tip of the nose with a very short collomella. This in turn causes the greatest diameter of the nostrils to be in the horizontal rather than the vertical meridian. The correction of this condition is very easy by taking a section of the rib which contains both bone and cartilage. The bony portion comes in contact with the floor of the nose at the rostrum, thus getting bony union.

3. *Cleft-Palate and Harelip Operation.* This is such a very large subject that a paper taking full time limit would not be too much. I shall, however, confine my remarks to conclusion that I have arrived in the ultimate results of the cases that I have had.

1. The earlier that I had the infant to operate the better the results.

2. Always do both lip, hard and soft palate the same time, even though the hard palate may require another and another operation.

3. In bringing the premaxillae in apposition it is of great importance not to penetrate with all kinds of awls, needles and wires, this destroying the follicles, arresting the development of the jaw and loss of permanent incisor teeth.

4. Great effort is to be made to make both nostrils similar as well as avoiding dimpling or puckering of the lip at the mucocutaneous junction.

5. Most of my failures of nonunion of soft and hard palate I believe were due to lack of freshening of margins of the cleft as well as not sufficient laxity of the dissected mucous membrane. In small perforations of the hard palate which have had several operations, having as a result considerable scarring I have succeeded in bringing down the inferior turbinated body and closing it.

d. Cosmetics: There are type of deformities or malformations about the head that are borderline cases, and should receive our most careful and expert attention. I have reference to congenital malformations as a large hump nose, saddle nose, extreme bulbous tip, extreme small or large nostrils, short upper lip, massive hanging lower lip, deformed ears, etc. Many of these patients have talents and opportunities in public or social life, but keep out of it on account of being sensitive or so handicapped as not to obtain positions which they otherwise would.

e. Psychic or Imaginary. This form of deformity or malformation is probably more frequently met with than medical men have any idea, simply because most of these unfortunate mental cases fall into or are forced upon the "quack" beauty specialist. I mean they are forced upon them by the regular physician and surgeon who recognizes the patient to be a neurotic or mental case, refuses to operate upon them. These patients are the most difficult to handle, no matter from what standpoint considered. It is the duty of every physician and surgeon to try and argue with them, to convince them that correction is unnecessary. Only in a small minority will one succeed. It may be well for him to show the patient some of the bad results that have been obtained at the hands of the quack, such as parafinomas, etc. In this connection I wish to call attention to a horrible case of parafinoma recently coming under my

care and in which I believe I made a valuable discovery as to the treatment of this terrible condition.

Miss N. Apparently had nothing the matter with her nose; Fig. XI, went to some doctors in Minneapolis requesting to have her nose operated for some imaginary deformity. He refused, so she followed the alluring advertisements of a Chicago Charlatan, beauty doctor, who injected her with paraffin. There resulted a typical parafinoma, causing the girl mental and physical pain. Fig. XII shows how she looked. In order to study the histologic and chem-

Fig. XI.

ical change of the tissue, I excised a piece from the center where there is seen a scar, Fig XII. Leaving the cut surface covered only with a thin layer of gauze, I noticed that from the margins there was an outpouring of a thick whitish substance which proved to be paraffin, relieving the pain and making the tissues much softer. Whether the skin will recover so as to be able to do a minor operation or whether the entire nasal form work will have to be decorated as in rhinophema I am not able to say at this time.

While the open treatment to the parafinoma was beneficial in that considerable amount of the parafine escaped, it was such a slow process that I decided to operate upon her. Under general

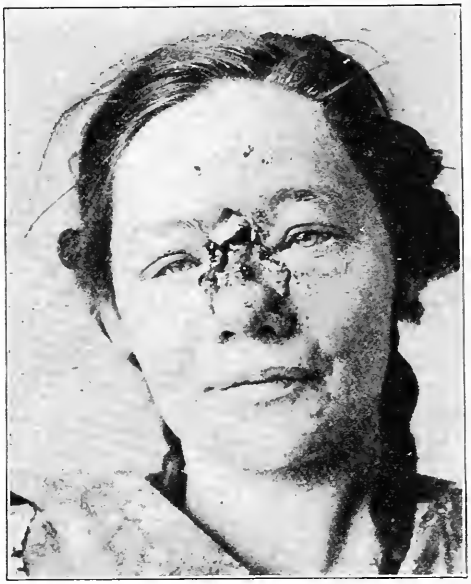


Fig. XII.

Fig. XIII.

Fig. XIV. Paraffinoma.

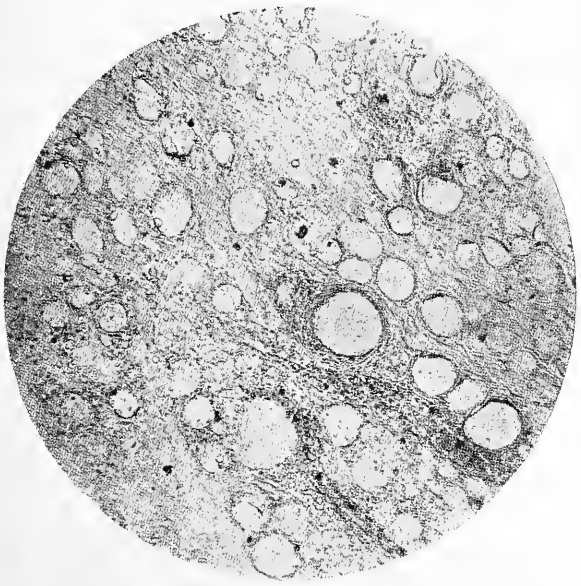


Fig. XV. (High Power) Paraffinoma.

anesthesia (local being impossible, owing to the great pain in even inserting the hypodermic needle) the skin about the nose not involved in the parafinoma was dissected and the masses of the tumor resected, Fig. XIV, and subjected to microscopic examination, Fig. XV. The tip of the nose which contained very little parafin was, however, much changed by a rhinophemic appearance. The venules were much dilated and increased in number. To destroy them, I applied 25 mm. of radium by means of needles, which were left in for eight hours at two different periods. Fig. XVI shows the case as it appears now. Some time later I intend to do a

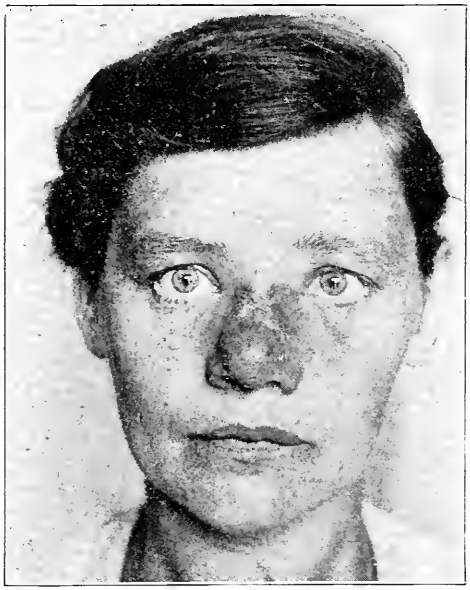


Fig. XVI.

rhinoplastic operation to cover the defect at the dorsum of the nose.

As to being satisfied with the cosmetic result it is practically unheard of, the patient asks for further correction even if it is ever so little. Recently there had come to me a case that is so important in the discussion of my subject that I will ask your indulgence to listen to what may be called idle gossip. Important because work done by two of our prominent oto-laryngologists and one general surgeon prominent in this line of work have

allowed themselves to be coaxed into operating one of these poor rich creatures, to their detriment, the patient and science. Mrs. X, about 35 years of age, having one child, all the comforts of a home, decided that now the time has arrived when she must have something done to her nose, particularly the point must be more prominent. She actually shuns the society of her friends, being so conscious of her deformtiy. A photograph shown to me of her appearance at that time shows a well proportioned nose and face. Traveling very far she reaches the doctor with the reputation (for she will never consult a charlatan or advertising quack) who tells her that she does not need the operation and she leaves him satisfied and contented to leave well enough alone. The same day, however, the specialist has her notified that all is prepared for her operation for the next morning. Greatly surprised she declares that she will now abide by the doctor's advice not to be operated upon, whereupon the doctor telephones himself stating that she had better have it done for she will never rest until it is done. Going to the doctor's office she was operated under local anesthesia in a sitting posture. The doctor took something out of the inside of her nose and put it over the bridge, right under the skin. This caused a bad hump and she was much displeased as well as enraged at the enormous fee demanded. Returning back to her home she was much distracted over her appearance, consulted an oto-laryngologist who also did some work in this line. This gentleman resected a piece of rib which fractured into three parts causing an empyema for which she was twice operated. The transplant into the side of her nose (alae) made things much worse and she was now in a horrible condition (all these are exact expressions of patient as taken down by stenographer). In due time she had heard of another great man, this time general surgeon, who, according to medical publications, could help her, so she again travels far to have the real work done. She had also received information that in the vicinity of this general surgeon there were two other oto-laryngologists that had reputations as plastic surgeons, so she consulted them also; however, neither one of these would give her any satisfaction. Consequently she was operated upon by this general surgeon (specialist in plastics) who resected a piece of rib on the opposite side of chest and planted a strip over the bridge of the nose, through an external incision at the root of the nose. He really made a prominent tip and she thought now that she would be satisfied. Alas, not so, the sides of the nose were now

very unsightly and caused her whole facial expression to change to an abnormal one. Besides, this strip that the last doctor put in was so close under the skin at the tip as to make it red and painful, also fearing it might push through.

This threatening ulceration of the transplant, caused her family physician to write to me about the case in detail and asked me to take charge. Knowing the type of these patients, I discouraged him to send her on such a great distance, but she appeared nevertheless. I found a highly cultured lady, absolutely normal in every way, mentally and physically, now very sorry as to what she had done and made the request that she wished she could have her nose as it was before anything had been done.

Examination showed the transplant protruding at the tip of the nose, being covered by a thin layer of epithelium and surrounded by a red and painful area. I condescended to remove the transplant and at the same time implant some fat in the tip of the nose, to prevent subsequent shrinkage. This was accomplished without any difficulty by making a small incision in the colomella, that left no visible scar. The patient left very much happier than she came, the operation having prevented an ulceration with possible secondary infection and a disastrous result. That the patient will not be satisfied with the cosmetic result, there is not much doubt in my mind, but the lesson she has learned should be a warning to others wanting such work done, or to the surgeon condescending to perform such operation. As stated before there is a very sharp line of differentiation between real cosmetic cases and such as these last two illustrated.

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